

AVIONICS FLIGHT LINE MAINTENANCE
F-15

1. Objective. As prescribed in AFI 38-201, *Determining Manpower Requirements*, this Air National Guard Manpower Standard (ANGMS) quantifies the full-time manpower required to accomplish the tasks described in the work center description at attachment 1 for varying levels of workload volume.

2. Authority. ANGI 21-101, *Maintenance Management of Aircraft*, contains policy and procedural guidance for the Avionics Flight Line Maintenance function. This ANGMS has been developed in accordance with functional review procedures contained in AFMAN 38-208V1, *Air Force Management Engineering Program (MEP) Processes*.

3. Applicability. This ANGMS applies to all ANG F-15 Fighter Wings and Groups in peacetime operations only.

4. Standard Data:

- a. Classification. Type II.
- b. Approval Date. 2 February 1995.
- c. Manpower Data Source. Operational Audit method (historical record and technical estimate techniques).
- d. Standard Manpower Equation. $Y = -620.6 + 9.157X$.
- e. Workload Factor:
 - (1) Title. A Programmed Flying Hour.
 - (2) Definition. The average monthly flying hours authorized.
 - (3) Source. USAF Program Document, Volume II, maintained by ANG/FM.

5. Application Instructions:

- a. The valid man-hour range for this ANGMS is 1700.06 through 3694.08.
- b. This ANGMS is appropriate for use with all peacetime civilian man-hour availability factors.
- c. Determine the manpower requirements for this work center by substituting the appropriate workload value in paragraph 4e for the X in the man-hour equation in paragraph 4d. The resultant number will be divided by the current civilian man-hour availability factor which will produce fractional manpower requirements. Use the fractional manpower table provided by ANG/MPME to determine requirements.
- d. Refer to attachment 2, AF Form 1113, Standard Manpower Table, to determine specific Air Force specialties.

6. Statement of Conditions. The conditions listed below had no affect on the development of the standard, nor will they affect future applications. Analyses of these levels of service indicate no manpower impact:

- a. Minimum response rates.
- b. Minimum manpower levels.
- c. Standardized crew complements.
- d. Safety considerations.
- e. Aircraft turn-around time.
- f. Length of waiting periods.
- g. Levels of backlog.
- h. Hours of operation.

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2 Attachments
1. Work Center Description
2. Standard Manpower Table

WORK CENTER DESCRIPTION

Avionics Flight Line Maintenance (F-15)

DIRECT:

1. ATTACK CONTROL SYSTEM MAINTENANCE. Inspects, troubleshoots, and repairs on-equipment.

1.1. MAINTAINS FIRE CONTROL RADAR SYSTEM.

1.2. MAINTAINS HEADS-UP DISPLAY SYSTEM.

1.3. MAINTAINS OVERLOAD WARNING SYSTEM.

1.4. MAINTAINS LEAD COMPUTER GYRO SYSTEM.

1.5. MAINTAINS INERTIAL NAVIGATION SYSTEM.

1.6. MAINTAINS CENTRAL COMPUTER SYSTEM.

1.7. MAINTAINS, REMOVES, AND INSTALLS 8MM VIDEO RECORDER SYSTEM.

1.8. MAINTAINS INDICATOR GROUP.

2. INSTRUMENT AND FLIGHT CONTROL MAINTENANCE. Inspects, troubleshoots, and repairs on-equipment.

2.1. MAINTAINS MANUAL FLIGHT CONTROL SYSTEM:

2.1.1. MAINTAINS FLAP AUTO RETRACT SYSTEM.

2.1.2. MAINTAINS SPEED BRAKE AUTO RETRACT SYSTEM.

2.2. MAINTAINS ENGINE INSTRUMENT:

2.2.1. MAINTAINS TACHOMETER SYSTEM.

2.2.2. MAINTAINS TEMPERATURE INDICATING SYSTEM.

2.2.3. MAINTAINS NOZZLE POSITION INDICATOR.

2.2.4. MAINTAINS OIL PRESSURE INDICATING SYSTEM.

2.3. MAINTAINS UTILITY HYDRAULIC SYSTEM.

2.4. MAINTAINS FUEL QUANTITY SYSTEM.

2.5. MAINTAINS FUELS FLOW INDICATOR SYSTEM.

2.6. MAINTAINS FLIGHT INSTRUMENT:**2.6.1. MAINTAINS ALTITUDE INDICATOR.****2.6.2. MAINTAINS MACH INDICATOR.****2.6.3. MAINTAINS VERTICAL SPEED INDICATOR.****2.6.4. MAINTAINS STANDBY AIRSPEED INDICATOR.****2.6.5. MAINTAINS ALTIMETER PRESSURE.****2.6.6. MAINTAINS STANDBY VERTICAL GYRO INDICATOR.****2.6.7. MAINTAINS ALTIMETER INDICATOR.****2.6.8. MAINTAINS ANGLE OF ATTACK SYSTEM.****2.6.9. MAINTAINS ACCELEROMETER INDICATOR.****2.6.10. MAINTAINS ALTIMETER PRESS-STANDBY.****2.7. MAINTAINS AIR DATA COMPUTER SYSTEM.****2.8. MAINTAINS PILOT STATIC, HEATER, AND INSTRUMENTS SYSTEM.****2.9. MAINTAINS AIR INLET SYSTEM.****2.10. MAINTAINS NAVIGATION INSTRUMENT SYSTEM:****2.10.1. MAINTAINS STANDBY COMPASS.****2.10.2. MAINTAINS HORIZONTAL SITUATION INDICATING SYSTEM.****2.11. MAINTAINS AUTOMATIC FLIGHT CONTROL SYSTEM.****2.12. MAINTAINS BUILT-IN TEST SYSTEM.****2.13. MAINTAINS INTERIOR LIGHTING SYSTEM.****2.14. MAINTAINS SIGNAL DATA RECORDING SYSTEM.****2.15. MAINTAINS ACCELEROMETER COUNTER SET.****2.16. MAINTAINS ATTITUDE HEADING REFERENCE SYSTEM.****2.17. MAINTAINS INLET ICE DETECTION SYSTEM.****2.18. REMOVES AND REPLACES NAVIGATION INSTRUMENT CLOCK.**

2.19. MAINTAINS VARIABLE RAMP SYSTEM. Maintains variable ramp measuring by measuring the first ramp, by pass door, and diffuser ramp.

3. COMMUNICATION, NAVIGATION, AND PENETRATION AID MAINTENANCE. Inspects, troubleshoots, and repairs on-equipment.

3.1. MAINTAINS ULTRA HIGH FREQUENCY SYSTEM.

3.2. MAINTAINS HIGH FREQUENCY RADIO.

3.3. MAINTAINS INTEGRATED COMMUNICATIONS NONALIGNMENT INDICATING CONTROL SET.

3.4. MAINTAINS INTERCOM SYSTEM F-15.

3.5. MAINTAINS VOICE SYSTEM:

3.5.1. REPROGRAMS SYSTEM.

3.5.2. REPLOTS/UPDATES/MAINTAINS SYSTEM.

3.6. MAINTAINS IDENTIFICATION FRIEND OR FOE TRANSPONDER SYSTEM.

3.7. MAINTAINS IDENTIFICATION FRIEND OR FOE INTERROGATOR SET A/A.

3.8. MAINTAINS AUTOMATIC DIRECTION FINDER SYSTEM.

3.9. MAINTAINS INSTRUMENT LANDING SYSTEM.

3.10. MAINTAINS TACTICAL AIR NAVIGATION SYSTEM.

3.11. MAINTAINS ELECTRONIC COUNTERMEASURES SYSTEM AN/ALR-56 RADAR WARNING RECEIVER.

3.12. MAINTAINS INTERFERENCE BLANKER SYSTEM.

3.13. MAINTAINS COUNTERMEASURES SET AN/ALQ-128 ELECTRONIC WARFARE WARNING SYSTEM.

3.14. MAINTAINS COUNTERMEASURES SET AN/ALQ-135 INTERNAL COUNTERMEASURES SET.

3.15. MAINTAINS COUNTERMEASURES DISPENSING SYSTEM (FLARE/CHAFF) ALE-45.

4. AIRCRAFT INSPECTION. Performs special, phase, and hourly aircraft inspection.

4.1. PERFORMS INSPECTION:

4.1.1. PERFORMS SPECIAL INSPECTION.

4.1.2. PERFORMS ACCEPTANCE INSPECTION.**4.2. PERFORMS PHASE/HOURLY INSPECTION.**

5. TIME COMPLIANCE TECHNICAL ORDER (TCTO) MAINTENANCE. Performs maintenance required on/off the aircraft in accordance with applicable TCTO and completes documentation.

6. TECHNICAL DATA SUBACCOUNT MAINTENANCE. Receives and posts technical data, changes, and supplements to technical order file. Maintains and inventories file for serviceability.

7. BENCH SET AND MOCK UP MAINTENANCE. Inspects, aligns, and repairs bench set mock-up and subsystem component.

8. HEADSET/GROUND COMMUNICATIONS CORD MAINTENANCE. Performs periodic and required maintenance on headset and ground communications cord.

9. ALR-56 SYSTEM REPROGRAMMING. Reprograms the ALR-56 system for SERENE BYTE exercises.

10. AIRCREW DEBRIEFING. Attends aircrew debriefing.

11. GENERAL SHOP SUPPORT. Performs shop support task to include local manufacture item.

12. HAZARDOUS WASTE PROGRAM MANAGEMENT:

12.1. PROCESSES HAZARDOUS WASTE. Identifies, labels, contains, and disposes of hazardous waste.

12.2. MAINTAINS COLLECTION FACILITY. Maintains hazardous waste accumulation point, satellite collection area, and container.

12.3. MAINTAINS PROTECTIVE EQUIPMENT. Inspects and maintains protective equipment.

13. DOCUMENTATION. Enters information into the computer and maintains aircraft records.

14. SPECIAL PLANNING OR SCHEDULING:

14.1. PREPARES FOR UNIT TRAINING ASSEMBLY.

14.2. PREPARES FOR MOBILITY PARTICIPATION.

INDIRECT:**II. SUPERVISION:****II.1. ADMINISTERS PERSONNEL:**

II.1.1. HIRES CIVILIAN EMPLOYEE. Develops civilian position description, develops promotion evaluation program, submits request for civilian hire, reviews personnel data, interviews applicant, analyzes applicant interview evaluation/rating, and finalizes selection.

II.1.2. INDOCTRINATES PERSONNEL:

II.1.2.2. INDOCTRINATES ENLISTED MEMBER. Conducts initial interview, makes original job assignment, and acquaints new member with the work center.

II.1.2.3. INDOCTRINATES CIVILIAN. Conducts initial interview, makes original job assignment, and acquaints new member with work center.

II.1.3. RATES PERFORMANCE:

II.1.3.1. PREPARES MILITARY EVALUATION:

II.1.3.1.1. PREPARES ENLISTED EVALUATION. Reviews enlisted performance report or letter of evaluation, researches required information, drafts narrative and referral letter, proofreads typed copy, marks boxes, and signs completed report.

II.1.3.1.3. PREPARES LETTER OF EVALUATION. Reviews letter of evaluation notice, researches required information, drafts narrative and referral letter, proofreads typed copy, and signs completed report.

II.1.3.2. IMPLEMENTS CIVILIAN PERFORMANCE AND PROMOTION APPRAISAL-PERFORMANCE PLAN:

II.1.3.2.1. PREPARES CIVILIAN PERFORMANCE AND PROMOTION APPRAISAL-PERFORMANCE PLAN. Analyzes position, position description, and work center goals; drafts performance plan subtask and standard; discusses proposed performance plan with employee; finalizes performance plan.

II.1.3.2.2. PREPARES CIVILIAN PERFORMANCE AND PROMOTION APPRAISAL-PERFORMANCE RATING. Researches employee performance, completes performance rating, and discusses performance rating with employee.

II.1.3.5. PROVIDES PERFORMANCE FEEDBACK:

II.1.3.5.1. PREPARES FOR PERFORMANCE FEEDBACK SESSION. Gathers and reviews performance information, schedules feedback session, selects and develops agenda, and prepares performance feedback worksheet.

II.1.3.5.2. CONDUCTS PERFORMANCE FEEDBACK SESSION. Explains duty performance requirements and responsibilities, establishes expectations, and informs ratee if performance is up to expectations.

II.1.3.5.3. ATTENDS PERFORMANCE FEEDBACK SESSION. Receives performance feedback and discusses performance expectations with supervisor.

II.1.5. NOMINATES PERSONNEL FOR AWARD:

II.1.5.1.3. PREPARES ENLISTED AWARD NOMINATION. Reviews and returns award submission consideration letter, researches directive, drafts nomination and citation, proofreads nomination and citation final typed copy, and signs as required.

II.1.5.1.4. PREPARES ENLISTED DECORATION NOMINATION. Reviews and returns decoration submission consideration letter, reviews report of individual personnel, researches directive, drafts nomination and citation, proofreads nomination and citation final typed copy, and signs as required.

II.1.5.2. PREPARES CIVILIAN AWARD NOMINATION. Researches data, drafts recommendation, and finalizes recommendation.

II.2. SUPERVISES PERSONNEL:

II.2.1. SCHEDULES PERSONNEL. Reviews work requirement and priority, reviews personnel status, and prepares duty schedule.

II.2.2. DEVELOPS STANDARD PUBLICATION OR OTHER DIRECTIVE:

II.2.2.1. DEVELOPS POLICY LETTER, PROCEDURE, OR OPERATING INSTRUCTION. Researches applicable document, develops draft, coordinates draft, and proofreads and signs final copy.

II.2.2.2. DEVELOPS PERFORMANCE STANDARD OR CHECKLIST. Researches applicable document, develops draft, coordinates draft, and proofreads and signs final copy.

II.2.3. DIRECTS WORK CENTER ACTIVITY:

II.2.3.1. OVERSEES WORK IN PROGRESS. Inspects and reviews subordinates' work.

II.2.3.2. COORDINATES ON WORK CENTER OR PERSONNEL STATUS. Coordinates with supervisor or other unit or agency on work center or personnel status.

II.2.3.3. INFORMS WORK CENTER PERSONNEL:

II.2.3.3.1. INFORMS WORK CENTER PERSONNEL. Informs work center personnel on change affecting individual or work center activity.

II.2.3.3.2. INFORMS INDIVIDUAL. Informs individual on changes affecting the individual.

II.2.4. COUNSELS PERSONNEL:

II.2.4.2. COUNSELS ENLISTED MEMBER. Counsels and assists individual with morale, welfare, or disciplinary problems. Takes necessary action required to maintain discipline.

II.2.4.3. COUNSELS CIVILIAN. Counsels and assists individual with morale, welfare, or disciplinary problems. Takes necessary action required to maintain discipline.

II.2.5. MAINTAINS TIME AND ATTENDANCE FORM. Annotates form, completes form, reviews for accuracy, obtains required signature, and forwards form to civilian pay.

II.3. REVIEWS INCOMING DISTRIBUTION. Reviews incoming correspondence for information and necessary action and marks for routing.

11.4. REVIEWS OUTGOING DISTRIBUTION. Reviews outgoing correspondence for completeness and accuracy and signs.

11.5. DEVELOPS BUDGET ESTIMATE. Prepares budget input by researching, evaluating, coordinating, and drafting estimate; forwards estimate to unit resource advisor; and answers follow-on inquiry on estimate.

11.6. ASSISTS IN MISHAP OR INCIDENT INVESTIGATION. Notifies emergency response agency, informs safety office, and assists in investigation.

11.7. INSPECTS FACILITY:

11.7.1. INSPECTS OFFICE FACILITY. Periodically inspects work center facility for housekeeping, safety, fire hazard, or equipment conditions that require attention, and completes necessary documentation.

11.7.2. INSPECTS WAREHOUSE/MAINTENANCE FACILITY. Periodically inspects work center facility for housekeeping, safety, fire hazard, or equipment conditions that require attention and completes necessary documentation.

11.9. REVIEWS REPORT AND STATISTICAL DATA. Reviews information contained in report and statistical data for impact on work center status and to identify possible trends that require management attention.

11.10. PREPARES SUGGESTION. Researches information, prepares suggestion, and submits to unit suggestion monitor or base suggestion manager.

12. ADMINISTRATION:

12.3. MAINTAINS UNCLASSIFIED CORRESPONDENCE FILE:

12.3.1. ESTABLISHES NEW FILE. Researches new regulation, amends file plan, prepares file control label, and prepares new file folder.

12.3.2. UPDATES FILE. Reviews file for currency, updates file plan, updates file control label, and updates file guide and folder label.

12.3.3. FILES CORRESPONDENCE. Obtains correspondence from filing tray, marks correspondence, sorts correspondence, and files correspondence.

12.3.4. REVIEWS FILE FOR DISPOSAL. Separates active file from inactive file, prepares material for transfer to staging area, and stores material for disposal.

12.3.5. DISPOSES OF DOCUMENTATION. Disposes of material within the work center and outside the work area.

12.4. MAINTAINS SUSPENSE FILE. Determines need for suspense, assigns suspense, posts file, reviews file for compliance, reminds individual of suspense, and annotates file at completion of action.

12.5. MAINTAINS LOG AND REGISTER. Obtains book or form, makes entry, and puts book or form away.

12.6. MAINTAINS PERSONNEL LOCATOR FILE. Prepares card or record, posts change, and disposes of card or record.

12.7. MAINTAINS CLASSIFIED MATERIAL:

12.7.1. CONTROLS MATERIAL. Removes material from file, prepares document receipt, routes material, annotates receipt, and files material.

12.7.2. INVENTORIES MATERIAL. Verifies accountability of top secret material and prepares inventory report.

12.7.3. SAFEGUARDS MATERIAL. Checks safe, annotates form, checks room or area, and changes safe combination.

12.7.4. DESTROYS MATERIAL. Selects material to be destroyed, prepares destruction record, destroys material, and signs destruction record.

12.8. MAINTAINS UNCLASSIFIED PUBLICATION FILE. Determines requirement for publication, orders administrative publication, maintains index, and maintains publication.

12.9. OPERATES COPY MACHINE. Makes copy, annotates log, and collates copy.

12.10. MAINTAINS STOCK OF BLANK FORMS. Determines requirement, prepares requisition form, receives form, distributes form, files form, requisitions and maintains accountable form, disposes of obsolete form, and removes and deletes unneeded requisition form.

12.11. MAINTAINS BULLETIN BOARD. Posts new information and removes obsolete information.

12.12. MAINTAINS APPOINTMENT RECORD. Receives request, annotates record, coordinates appointment with supervisor, and finalizes appointment.

12.13. ACKNOWLEDGES VISITOR. Greets visitor, answers query, and refers visitor to appropriate person or location.

13. MEETING:

13.1. PREPARES FOR MEETING:

13.1.2. PREPARES FOR UNIT MEETING. Gathers information, organizes material, prepares chart or slide, and practices presentation.

13.1.4. PREPARES FOR DIRECTORATE/DIVISION/BRANCH MEETING. Gathers information, organizes material, prepares chart or slide, and practices presentation.

13.1.5. PREPARES FOR WORK CENTER MEETING. Gathers information, organizes material, prepares chart or slide, and practices presentation.

13.2. CONDUCTS OR ATTENDS MEETING:

I3.2.2. CONDUCTS OR ATTENDS UNIT MEETING.

I3.2.4. CONDUCTS OR ATTENDS DIRECTORATE/DIVISION/BRANCH MEETING.

I3.2.5. CONDUCTS OR ATTENDS WORK CENTER MEETING.

I4. TRAINING:

I4.1. ADMINISTERS TRAINING:

I4.1.1. DEVELOPS TRAINING PLAN. Determines training requirement, develops training chart and equivalent, develops job qualification standard continuation sheet, and develops or revises training schedule.

I4.1.2. EVALUATES INDIVIDUAL TRAINING REQUIREMENT. Prepares new training record, compares technical school graduation requirement with classification manual, prepares and submits training quality report, compares member's qualification with work center duty requirement, and designates trainer.

I4.1.4. COUNSELS TRAINEE. Conducts initial interview, counsels trainee on training progress, and documents counseling on training record.

I4.2. DEVELOPS TRAINING MATERIAL. Researches required information, updates existing training material, drafts new training material, develops training aid, and revises training aid.

I4.3. CONDUCTS TRAINING. Prepares training situation, makes presentation, observes performance, administers test, and annotates training record.

I4.4. RECEIVES TRAINING. Prepares for training, receives instruction, performs procedures, and takes test.

I5. SUPPLY:

I5.1. PROCESSES EQUIPMENT REQUEST. Determines need and authorization for equipment, researches stock number or nomenclature, prepares justification, submits request, takes follow-up action, and receives or turns in equipment.

I5.2. CONDUCTS INVENTORY. Inventories equipment on hand and ensures accuracy of records.

I5.3. MAINTAINS CUSTODIAN DOCUMENT. Receives listing from supply, posts change to record, and resolves inconsistency.

I5.4. OBTAINS EXPENDABLE SUPPLIES. Determines need, researches stock number, picks up expendable supplies from supply custodian, and distributes supplies.

I6. EQUIPMENT MAINTENANCE:

I6.1. MAINTAINS SHOP EQUIPMENT:

I6.1.1. MAINTAINS MACHINERY:

I6.1.1.2. MAINTAINS MACHINERY (AIRCRAFT MAINTENANCE FUNCTIONS). Performs periodic inspection and performs preuser inspection.

I6.1.2. MAINTAINS TEST EQUIPMENT:

I6.1.2.2. MAINTAINS TEST EQUIPMENT (AIRCRAFT MAINTENANCE FUNCTIONS). Maintains a list of equipment requiring Precision Measurement Equipment Laboratory (PMEL) calibration or testing, turns in or picks up equipment from PMEL or PMEL coordinator, prepares letter of justification for peculiar equipment code equipment, performs preuser inspection, and performs periodic inspection.

I6.1.3. MAINTAINS CONSOLIDATED TOOL KIT (CTK):

I6.1.3.2. MAINTAINS CTK (AIRCRAFT MAINTENANCE FUNCTIONS). Orders new or replacement tool, conducts periodic inventory, and reports missing tool.

I6.1.4. MAINTAINS INDIVIDUAL TOOL KIT. Reports to supply for initial issue, replaces broken or lost tool, and conducts periodic inventory.

I6.2. MAINTAINS ASSIGNED VEHICLE:

I6.2.2. MAINTAINS ASSIGNED VEHICLE (AIRCRAFT MAINTENANCE FUNCTIONS). Performs operator inspection, washes vehicle, waxes vehicle, and refuels vehicle.

I7. CLEANUP:

I7.1. PREPARES WORK AREA. Places tool or equipment in proper location at beginning of duty period and arranges area to conform with any sanitary, safety, or security requirement.

I7.2. PUTS WORK AWAY. Stores tool or equipment in proper location at the end of the duty period and arranges area to conform with any sanitary, safety, or security requirement.

I7.3. CLEANS WORK AREA:

I7.3.1. CLEANS OFFICE AREA. Dusts, sweeps, mops, waxes, buffs, washes window, and performs other associated janitorial tasks.

I7.3.2. CLEANS MAINTENANCE OR WAREHOUSE AREA. Dusts, sweeps, mops, waxes, buffs, washes window, and performs other associated janitorial tasks.

STANDARD MANPOWER TABLE											
WORK CENTER/FAC			APPLICABILITY MAN-HOUR RANGE								
Avionics Flight Line Maintenance/FAC 24100E			1700.06 - 3694.08								
AIR FORCE SPECIALTY TITLE	AFSC	GRADE	MANPOWER REQUIREMENT								
Avionics Systems Mgr	2A0XX	CIV	1	1	1	1	1	1	1	1	1
F-15 Avionics Sys Jrnymn	2A3X1A	CIV	4	5	5	6	6	7	7	7	8
F-15 Avionics Sys Jrnymn	2A3X1B	CIV	4	4	5	5	6	6	7	7	7
F-15 Avionics Sys Jrnymn	2A3X1C	CIV	2	2	2	2	2	2	2	3	3
TOTAL			11	12	13	14	15	16	17	18	19
AIR FORCE SPECIALTY TITLE	AFSC	GRADE	MANPOWER REQUIREMENT								
Avionics Systems Mgr	2A0XX	CIV	2	2	2	2	2	2			
F-15 Avionics Sys Jrnymn	2A3X1A	CIV	8	8	9	9	10	10			
F-15 Avionics Sys Jrnymn	2A3X1B	CIV	7	8	8	9	9	10			
F-15 Avionics Sys Jrnymn	2A3X1C	CIV	3	3	3	3	3	3			
TOTAL			20	21	22	23	24	25			

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